TCD System Configuration

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Subsystem	Physical Configuration				Software Configuration			
	Slot	VME Address	Group ID	Cable Driver Cards(conn)	Detector ID	Vers #	Intrnl Busy	Acc/Abrt Clear (rhic ticks)
	6							
BBC	7	0x11000000	N/A	1(3)	0xf	3	N/A	N/A
ETOW	8	0x12000000	5	1(2)	0x8	7		
SSD	9	0x13000000	7	1(2)	0x5	1		
FPD	10	0x14000000	1	1(2?)	0x7	5		
TOF	11	0x15000000	7	1(4)	0x4|0	a		
ESMD	12	0x10000000	6	1(7)	0x9	4		
TPC	13	0x1e000000	0	3(24)	0x0	8		
TPX	14	0x18000000	7	3(24)	0x0	a		
BSMD/PSD	15	0x19000000	4	2(20)	0x2	b	3.2ms	2 (both)
CTB/ZDC	16	0x1a000000	N/A	1(3)	0xe	2	N/A	N/A
BTOW	17	0x1b000000	3	1(9)	0x6	5	14ms	2(both)
FTPC	18	0x1c000000	0	1(4)	0x3	7		
PMD	19	0x1d000000	0	0(1)	0xa	2		
	20							
VPD	21	0x1f000000	N/A	0(1)	0xf	3	N/A	N/A

Subsystem

There is one row in this table for every subsystem that uses a TCD module to distribute clocks and triggers.

Physical Configuration

TCD-Crate Slot

This column describes which slot in the 9U VME crate currently holds this specific TCD

Base Address

The VME base address of this TCD

Group ID

The jumper setting on the TCD that determines which bit in the trigger detector bitmask this TCD will respond to and which busy bit it will drive. The BBC, CTB and ZDC are fast trigger-only detectors that do not receive triggers and are never busy so they have no jumpers and are not members of any group.

Number of Cable Driver Cards

Each TCD drives one output cable. That cable can multi-drop to one or more Cable Driver Cards housed in a 6U crate underneath the TCD crate. The number of cards varies depending on the number of drops, listed in parenthesis, needed by the subsystem. Each Card can drive up to 8 outputs.

Software Configuration

Detector ID

This is the ID number of the customizable code that is loaded into the FPGA on each TCD module.

FPGA Code Version Number

The FPGA programming for some Detector IDs has been through several iterations. This is the version number of the code that is currently loaded in the FPGA.

NOTE: The Detector ID and Version Number can be read from any TCD using a 16-bit read of the register at address offset 0x1e. The Version Number is coded into bits 0:11 and the Detector ID is in bits 12:15

TCD Board Inventory

serial #	location	robo clock	driver patch	comments
1	1A2 PMD	yes	yes	
				- works in UT. In dan's lab for repair
3	1A2 VPD	yes	yes	- repaired, now VPD TCD
5	dan's lab	yes	yes	unknown: oleg says doesn't work for bsmd
6	1A2 CTB	yes	yes	
9	dan's lab	yes	yes	unknown: oleg says doesn't work for bsmd
10	1A2 BTOW	yes	yes	noisy clock out:2007feb28 fixed moved to btow
				fixed taken to IR inuse for BTOW
13	1A2 ETOW	yes	yes	
14	1A2 TPC	yes	yes	
16	Dan's lab	yes	yes	- casualty of 13-oct-07 power glitch. Needs repair
17	1A2 ESMD	yes	yes	
18	1A2 BSMD	yes	yes	bsmd tcd (formerly SVT TCD in test lab)
19	dan's lab	yes	no	clock looks sick (150mV of 1Gz noize)
20	1A2 FTPC	yes	yes	
				- Formerly FPD before patching
21	1A2 TOF	yes	yes	- modified to accept busy via cbl drvr, TOF TCD
22	1A2 SSD	yes	yes	
				- robo clock added taken to hall in use for VPD
				- Bad output removed to Dan's lab 20-Mar-07
23	1A2 TPX	yes	yes	- modified to accept busy via cbl drvr, TPX TCD
				Bad output removed to Dan's lab 20-Mar-07
24	1A2 FPD	yes	yes	
25	1A2 BBC	yes	yes	robo clock added
				fixed taken to IR in use for BBC
26	Scheetz	yes	yes	Being modified for pp2pp
30	dan's lab	no	yes	smoked with DSMI. Needs repair
31	Dan's lab	no	yes	Formerly BBC. Now in test setup
2A	dan's lab	yes	yes	no clock out (removed from star 20-feb-07)

Service Log

20070226 – je – swapped BSMD TCD #25 for #18 which had robo clock, version #0xb
20070228 – je – swapped BTOW TCD #23 for #10 which has robo clock, version #5.
20070312 – je – swapped BBC TCD #31 for #25 which has robo clock and updated version #3.
20070312 – je – installed VPD TCD #23 as 0x1f, detector 0xf, version #3
20070312 – je – moved TOF TCD to group 0 (installed diode jumper on busy 0)
20070312 – je – moved SSD TCD to group 2
20070314 – je – moved SSD TCD to group 7 (for test removed PMD). Works okay, obviously a
                 problem using group 2
20070314 – je – move SSD TCD back to group 0 with diode jumper on busy select line
20070319 – hc – moved SSD TCD to group 7 added diode jumper on busy to PMD TCD
200708?? – je – gave TPX TCD #XX and cbl drvr card to bob scheetz for busy modification

20071016 – je – installed modified TPX TCD (and cable driver card) into slot 14
20071017 – je – gave TOF TCD #21 and cbl drvr card to bob scheetz for busy modification
20071017 – je – VPD TCD#16 won't configure removed to Dan's lab swapped for TCD #3
20071019 – je – gave pp2pp TCD #26 to bob scheetz for busy modification